AMENDMENTS TO THE CLAIMS

Please amend Claims 1-5, 7, 8, 10-13, 15, and 16 as indicated below.

1. **(Currently Amended)** A method of forming a multijunction solar cell comprising an upper subcell, a middle subcell, and at least one lower subcell, said method comprising:

providing a growth semiconductor substrate for the epitaxial growth of semiconductor material;

forming said upper subcell over said growth semiconductor substrate such that said upper subcell has a first, upper band gap and is substantially lattice-matched to said growth substrate;

forming said middle subcell over said upper subcell such that said middle subcell is substantially lattice-matched to said growth substrate and said middle subcell has a second middle band gap, said first upper band gap being larger than said second middle band gap;

forming said at least one lower subcell over said middle subcell such that said at least one lower subcell is substantially lattice-mismatched with respect to said growth semiconductor substrate and said at least one lower subcell has a third lower band gap, said third lower band gap being smaller than said second middle band gap;

providing a support structure over said lower subcell; and

removing said growth semiconductor substrate.

2. **(Currently Amended)** The method of Claim 1, wherein said lattice mismatch between said lower subcell and said growth semiconductor substrate is about 1% or greater.

3. **(Currently Amended)** The method of Claim 1, wherein said lattice mismatch between said lower subcell and said growth semiconductor substrate is about 2% or greater.

4. **(Currently Amended)** The method of Claim 1, wherein said lattice mismatch between said lower subcell and said growth semiconductor substrate is about 4% or greater.

5. **(Currently Amended)** The method of Claim 1, wherein said lattice mismatched between said lower subcell and said growth semiconductor substrate is about 5% or greater.

6. **(Original)** The method of Claim 1, further comprising removing a portion of said support structure thereby reducing the weight of said support structure after removing said growth semiconductor substrate.

7. **(Currently Amended)** The method of Claim 6, wherein said support structure is formed by adhering a ~~thin~~ sheet to a rigid member using a non-permanent adhesive such that said rigid member is detachable from said ~~thin~~ sheet after said support substrate is bonded to said lower subcell and said growth semiconductor substrate is removed.

8. **(Currently Amended)** The method of Claim 7, further wherein one side of said ~~thin~~ sheet is metallized to provide electrical bonding to said lower subcell and to provide ~~high~~ increased reflectance.

9. **(Original)** The method of Claim 1, wherein providing a growth semiconductor substrate for epitaxial growth of semiconductor material comprises providing a substrate selected from the group consisting of a GaAs substrate, a Ge substrate, an InP substrate, and a Si substrate.

10. **(Currently Amended)** The method of Claim 1, wherein forming said upper subcell comprises growing ~~$Ga_xIn_{1-x}P$~~ gallium indium phosphide semiconductor material over said semiconductor growth substrate.

11. **(Currently Amended)** The method of Claim 1, wherein forming said middle subcell comprises growing ~~$In_yGa_{1-y}As$~~ indium gallium arsenide semiconductor material.

12. **(Currently Amended)** The method of Claim 1, wherein forming said lower subcell comprises depositing ~~$In_yGa_{1-y}As$~~ indium gallium arsenide semiconductor material over said middle subcell.

13. **(Currently Amended)** The method of Claim 1, wherein forming said lower subcell comprises depositing ~~$Si_{(x)}Ge_{(1-x)}$~~ silicon germanium semiconductor material over said middle subcell.

14. **(Original)** The method of Claim 1, further comprising forming grading layers between said lower subcell and said middle subcell by growing InGaAs semiconductor material while increasing said In content and decreasing said Ga content to reduce stress in said lower subcell resulting from mismatch of lattice spacing.

15. **(Currently Amended)** The method of Claim 1, further comprising forming grading layers between said lower subcell and said middle subcell by growing ~~$In_yGa_{1-y}As$~~ indium gallium arsenide to reduce stress in said lower subcell resulting from mismatch of lattice spacing.

16. **(Currently Amended)** The method of Claim 1, further comprising forming a parting layer between said growth semiconductor substrate and said ~~top~~ upper subcell.

17. **(Original)** The method of Claim 16, further comprising preferentially etching said parting layer so as to remove said growth semiconductor substrate substantially intact for reuse.

18. **(Original)** The method of Claim 1, further comprising reusing said growth semiconductor substrate for epitaxial growth of semiconductor material after said step of removing said growth semiconductor substrate.

19. **(Original)** The method of Claim 1, wherein said semiconductor growth substrate is removed by etching the substrate.

20. **(Original)** The method of Claim 1, wherein first and second lower subcells are formed, said first lower subcell having a larger band gap than said second lower subcell.

21. **(Original)** The method of Claim 20, wherein said first lower subcell, said second lower subcell, and said middle subcell are formed by growing InGaAs based material and said upper subcell is formed by growing InGaP based material.

22. **(Original)** The method of Claim 21, further comprising forming grading layers between said first and second lower subcells by growing InGaAs semiconductor material while increasing said In content and decreasing said Ga content to reduce stress in said lower subcell resulting from mismatch of lattice spacing.

23. **(Canceled)**

24. **(Canceled)**

25. **(Canceled)**

26. **(Canceled)**

27. **(Canceled)**

28. **(Canceled)**

29. **(Canceled)**

30. **(Canceled)**

31. **(Canceled)**

32. **(Canceled)**

33. **(Canceled)**

34. **(Canceled)**

35. **(Canceled)**

36. **(Canceled)**

37. **(Canceled)**

38. **(Canceled)**

39. **(Canceled)**

40. **(Canceled)**

41. **(Canceled)**

42. **(Canceled)**

43. **(Original)** A method of forming a multijunction solar cell comprising a high band gap substantially unstrained subcell and at least one lattice-mismatched low band gap subcell, the method comprising:

providing a growth semiconductor substrate for the epitaxial growth of semiconductor material;

forming the high band gap subcell over the growth semiconductor substrate, the high band gap subcell having a first high band gap.

forming the at least one low band gap subcell over the high band gap subcell, the low band gap subcell having a second low band gap, the first high band gap being larger than the second low band gap, said growth substrate and said low band gap subcell having substantial lattice mismatch;

providing a support substrate over the low band gap subcell; and

removing the growth semiconductor substrate.

44. **(Original)** The method of Claim 43, wherein said lattice mismatch between said low band gap subcell and said growth substrate is at least about 1%.

45. **(Canceled)**

46. **(Canceled)**